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AUTHOR Dowaliby, Fred J.; McKee, Barbara G.
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ABSTRACT

Two questions were addressed: the clustering pattern of postsecondary deaf students' ratings of classroom instruction compared to the ratings of hearing students, and the relative merits of a checklist format versus a Likert response format. Seven principal factors related to classroom instruction were evaluated: (1) practical gain, or course usefulness; (2) instructor enthusiasm; (3) workload/difficulty; (4) personal gain; (5) negative affect; (6) clarity of organization; and (7) clarity of student responsibilities. It was concluded that deaf postsecondary students considered several factors in rating instructors and that these factors were similar to those reported in studies using hearing students. It was also found that the Likert response format was preferable to the simple checklist format. The Likert form was more easily interpreted, accounted for a greater proportion of the total variance, and yielded more reliable factor scale scores. (MH)

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Item Format and Deaf Students' Ratings of Classroom Instruction: A Comparative Analysis

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Fred J. Dowaliby
Assistant Professor and Research Associate

Barbara G. McKee
Assistant Professor and Research Associate

National Technical Institute for the Deaf
Rochester Institute of Technology
Rochester, New York

Presented at the annual meeting of the
American Educational Research Association
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Abstract

This study addressed two questions: Whether deaf students' ratings of classroom instruction cluster into the same dimensions as those of hearing post-secondary students; and the relative merits of two rating scale response formats, a simple checklist response format and the traditional Likert response format. Results indicated that the factor structure of both response formats were very similar to those found in previous research with hearing students. The data also led to the conclusion that the Likert response format had certain advantages over the checklist format.

The research reported in this paper was carried out under an agreement with the U.S. Department of Health, Education and Welfare

Introduction

This study was guided by the two primary questions that arose out of efforts to evaluate courses and newly developed instructional materials at the National Technical Institute for the Deaf. First, do deaf students' opinions of classroom instruction generally cluster into the same dimensions as those of hearing post-secondary students. Second, what are the advantages and disadvantages of the use of a checklist response format to assess deaf students' opinions as compared to the more traditional Likert response format.

Although the past several years have seen a striking increase in the use of students' ratings of instruction, such ratings are scarcely a new phenomena. In 1924, students at Harvard University published the first booklet on student evaluation of courses entitled Confidential Guide to Courses and, in 1928 H.H. Remmers said of student ratings of instruction:

> "'The college exists because society desires that youth be taught,' said Ernest Hatch Wilkins in his inaugural address as president of Oberlin College. 'Teaching, then, is the thing primarily expected of the college ... Teaching is, in the last analysis, the function of the college. The quality of the teaching is the measure of the success of the college.'
>
> "Perhaps, at the outset, agreement may be obtained on one pertinent fact: one element in the teaching situation is the students' reaction to the teacher. Does a student believe the teacher is

competent, interesting, sympathetic, well-balanced, and so on? Questions as to the relative value of this student reaction are numerous and varied, but all admit that it has some weight."

(Remmers, 1928, p. 602)

The debate over the use of student ratings of instruction continues despite their fifty-year history. Many faculty members question the reliability and validity of such measures. In an extensive review of previous research, Costin, Greenough and Menges (1971) stated that numerous investigators have reported acceptable stability and internal consistency of student ratings of instruction. Previous research also supports the contention that the criteria used by students in their ratings of instructors had much more to do with the quality of the presentation of material than with the entertainment value of the course per se (Guthrie, 1954; Weaver, 1960). Such attributes as preparedness, clarity, and stimulation of students' intellectual curiousity were typically mentioned by students in describing their best instructors. Correlations between course ratings and grades received, when observed at all, tended to be small, and several studies suggested that such correlations resulted from greater interest in the course on the part of students receiving better grades, rather than from a "reward effect" (Remmers, 1960).

Deaf students' ratings of instruction have not been subjected to the same intense scrutiny as have the opinions of the hearing. We still know very little about the dimensions that can legitimately be used to categorize ratings of instruction given by deaf post-secondary students.

Similarly, we still know little about the impact of various item formats on these ratings of instruction. The problems of the use of psychological tests with a deaf population have been well-documented (Garrison, 1978; Rosen, 1967). However, most of this research has concentrated on the difficulties with the syntax and vocabulary encountered by the deaf when standard psychological tests are employed. Garrison, et al. (1978) found that many deaf students made "idiosyncratic interpretations" of the items on the Tennessee Self Concept Scale and hence obtained results that falsely indicated psychological maladjustment.

The primary focus of this earlier measurement research has been on the psychological assessment of the hearing impaired. The goal of such work was usually the identification of students in need of special therapy or counseling. At times there was the desire to compare deaf and hearing populations on certain personality characteristics. Recently, however, with the increased emphasis on the design of instructional materials and instructional experiences specifically geared to a deaf population there has come an increased interest in opinion and attitude instruments. The data from such questionnaires and rating scales would be used not to prescribe special counseling but to describe deaf students' attitudes and opinions about a wide variety of topics.

Typically, students' opinions about courses and teachers are collected using a Likert response format questionnaire. Since deaf students often have difficulty with and/or misunderstand subtle differences in prose, results obtained from Likert-type instruments are subject to question.

This study sought to determine if deaf students' perceptions of instructors and courses cluster into the same dimensions typically found in research concerned with hearing students' ratings and, further, if the use of a checklist response format will yield psychometric characteristics equal to or better than those of a Likert format.

The checklist technique is less demanding of raters. With this type of scale, raters are directed to simply check off the items which are characteristic of the object being rated (in this case, aspects of the instructional situation).

Previous usages of a weighted checklist-type rating scale have been primarily confined to industrial situations for personnel decisions, (e.g., Ferguson, 1947; Knauft, 1948; and Richardson and Kuder, 1933), although a more recent study employed this technique within the medical education domain (Brumback and Howell, 1972).

There have been no reported uses of the checklist response format with post-secondary deaf students. A Likert-type student rating of instruction form has been available for use by RIT and NTID faculty members for some time. The psychometric properties of this instrument, however, have not been examined when used by NTID students.

Method

Development of Instrument

An initial set of 192 statements, each describing an aspect of instruction, were compiled from previously related efforts and from the literature on student ratings of instruction. The statements, which logically clustered into a total of 15 dimensions, were rewritten to the

fifth grade reading level and then randomly ordered. A prototype instrument using a forced-choice checklist format (students were asked to check one of two columns: either does describe course and/or instructor or does not describe course and/or instructor) was prepared.

The prototype instrument was administered to five classes totaling 38 students. In addition to completing the questionnaire, students were asked to circle words and statements they did not understand. Based on the results of this pilot, the number of items was reduced to 68. These items were reworked to remove vocabulary and syntactical problems discovered during the pilot study. Two forms of the instrument using the 68 items were then developed. One using a five-option Likert response format (strongly agree to strongly disagree) and one using a checklist response format. Instructions were included on both forms. Copies of each are appended.

Subjects

The subjects participating in the study were all NTID students enrolled in NTID classes. Five hundred students in 55 classes were included in the data analysis. All four of the major career areas at NTID were represented and 9% of the subjects were cross-registered in RIT majors. Slightly over half the participants were first-and second-year students, the remainder third or fourth year (or more). The students were evenly divided in terms of sex, with 219 males, 227 females, and 54 not indicated. Approximately 70% of the students were in classes that were required for their major program. The students were asked what grade they expected to receive in the course and 29% indicated they expected an "A", 39% a "B", 29% a "C", and 3% an "F".

Procedure

Instructor's participation was obtained by the investigators through visits to departmental meetings. Attempts were made to include as wide a variety of majors as possible, and to include both introductory and advanced courses. When the instructors agreed to participate in the study they completed a short form indicating the number of students in the class, date when the questionnaire would be administered, title of class, etc. Instructors were then mailed an envelope containing the appropriate number of forms (one for each class section, if they were using the form in more than one class) and instructions for administration. Each packet contained an equal number of Likert and checklist forms alternately stacked. The teachers were instructed to place the completed forms in a self-addressed manilla envelope and return them to the principal investigators for scoring.

The data from the rating forms were typed into a computer disc file and scored by a fortran computer program developed especially for this project. Instructors received computer-generated summaries of their students' responses. The summaries included item texts and explanations for all information reported.

Analysis

Each of the two forms were separately factor analyzed, using a variety of factor analytic techniques (principal components analysis and principal factor analysis, each with oblique and orthogonal rotations). It was determined that the best representation of the data, for both forms, resulted from a seven factor principal factor analysis with rotations against the varimax criterion.

Factor scales based on the best five marker variables for each factor were developed for the seven dimensions. In addition, an overall dimension score was computed for each student based on the three "overall" items (which were excluded from factor analyses). Factor scales are developed by simply summing the chosen item scores. It was decided to use factor scales rather than factor scores because of ease of computation, increased reliability, and ease of interpretation by instructors. Factor scales increase reliability at the expense of orthogonality. For a discussion of factor scores and factor scales see Armour (1974).

The following analyses were performed for each form on the newly generated factor scales: (1) reliability (internal consistency) estimates for each of the scales were computed and examined; (2) scores for the "overall" dimension were regressed on to the set of seven dimension scores; (3) a series of discriminant analyses using the demographic variables as grouping variables was performed.

Results

This study was guided by two primary questions (1) what are the underlying dimensions which describe post-secondary deaf students' ratings of instruction, and (2) of the two response formats examined (Likert and checklist) which is the most efficacious.

Items and Item Statistics

Copies of both instruments and individual item statistics for each response format are given in the appendix.

Results of Factor Analysis

Tables 1 and 2 present the results of the seven-factor principal factor analysis with varimax rotations for the two response formats.

The seven factors were identified for characteristic loading defined as .40 and above and were labeled based on the commonality amongst included items.

Likert response format. The first factor is characterized by items primarily related to what the students learned in the course. Items such as "I learned a lot of facts in this course;" "This course was very useful;" "This course will help me when I get a job;" and "I learned new methods for solving problems" lead the investigators to label this factor as "Practical Gain." The second factor was characterized by high loadings on such items as "The teacher was an enthusiastic and warm person" and "The teacher took an active, personal interest in the progress of the class." Hence the factor was labeled "Instructor Enthusiasm/Warmth." By a similar process, the remaining five factors for the Likert response format were labeled: "Workload/Difficulty;" "Personal Gain;" "Negative Affect;" "Clarity/Organization;" and "Clarity of Student Responsibilities." All of the above factors have been found in the literature dealing with student ratings of instruction by hearing students. One of the authors had previously factor analyzed a 38-item student rating of instruction form used with 1800 undergraduate students and found an eight-factor structure that was very similar to the seven factors mentioned above. An extensive review of the literature of student ratings of instruction have found certain factors to be consistent across studies (although differently labeled by different researchers) in spite of variations amongst instruments, numbers of items, and academic level of the students. The consistent factors are "Rapport" (equivalent to our "Enthusiasm/Warmth"), "Structure" (equivalent to our

TABLE 1

Seven Factor Structure of Principal Factor Analysis/Varimax Rotation for Likert Response Format of NTID Student Rating of Instruction Form

(N = 249 cases)

Item Number	Practical Gain	Instructor Enthusiasm/ Warmth	Workload Difficulty	Personal Gain	Negative Affect	Clarity Organization	Clarity of Student Responsibilities
1	.21	.51	-.05	.19	-.27	.26	-.11
2	-.09	.04	.27	.08	.36	-.21	.01
3	.04	.64	-.10	.16	-.06	.12	.00
4	-.03	-.01	.63	-.03	.10	-.17	-.06
5	-.12	-.06	.39	.02	.27	-.30	-.04
6	.21	.50	-.10	.12	-.18	.34	.18
7	.23	.37	-.25	-.11	-.10	.27	.13
8	.15	.34	-.30	-.14	-.03	.07	.06
9	.58	.22	-.09	.16	-.06	.07	-.02
10	.65	.16	-.11	.09	-.16	.17	-.05
11	.11	-.02	.53	-.10	.08	-.12	.03
12	-.26	-.18	.09	-.01	.34	-.13	.09
13	.36	.14	-.22	.23	.01	.21	.12
14	.24	.62	-.20	-.02	-.03	.18	.07
15	.19	.00	.57	.10	-.11	-.02	.08
16	.15	.32	-.21	.13	-.18	.69	.08
17	.22	.36	-.19	.20	-.04	.60	.06
18	.22	.35	-.20	.12	-.13	.58	.09
19	.23	.31	-.22	.00	-.24	.57	.09
20	-.20	-.16	.39	.00	.28	-.27	-.10
22	.12	.30	-.02	.34	.14	.18	.12
23	.23	.37	-.20	.14	-.14	.47	.07
24	-.06	-.05	.57	.00	.09	-.14	-.16
25	.34	.18	-.18	.11	-.15	.42	.15
26	-.13	-.21	.21	-.16	.38	-.10	-.12
27	.09	.32	-.12	.42	-.10	.22	.15
28	.22	.44	-.01	.42	-.07	.11	.13
29	.35	.12	.16	.31	-.06	.02	.03
30	.64	.12	-.11	.28	-.15	.19	.24
31	.42	.22	-.02	.58	-.06	-.05	.01
32	.33	.06	.02	.55	-.13	-.04	.02
33	.45	.01	-.01	.70	-.05	.09	.03
34	.58	.19	.01	.31	-.21	.11	.16
35	.19	.36	.01	.18	-.17	.10	.31
36	.46	.09	.03	.15	-.07	.10	.35
37	.50	.16	-.03	.17	-.03	.11	.30
38	-.16	-.22	.36	.07	.55	-.04	-.14
39	.52	.09	.13	.15	-.07	.10	.09

Table 1 (Continued)

(N = 249 cases)

Item Number	Practical Gain	Instructor Enthusiasm/ Warmth	Workload Difficulty	Personal Gain	Negative Affect	Clarity Organization	Clarity of Student Responsibilities
40	.57	.05	- .09	.03	- .05	.08	.27
41	- .38	.00	- .03	.02	.41	.01	- .06
42	.12	.21	- .11	.05	.03	.09	.57
43	.28	.24	- .05	.05	- .29	.25	.41
44	- .01	- .54	.12	- .08	.45	- .03	.13
45	.09	.64	- .06	.13	- .25	.05	.25
46	.24	.37	- .09	.09	- .17	.18	.42
47	.02	.00	.35	- .09	.4	- .23	- .21
48	.07	- .29	.00	- .36	.54	- .15	- .09
49	- .24	- .07	.17	- .41	.44	- .25	- .05
50	.26	.59	- .12	.22	- .01	.14	- .07
51	.26	.56	- .05	.33	- .13	.20	- .04
52	.15	.11	.28	.08	- .08	- .10	- .08
53	.12	.38	- .04	- .01	- .09	.18	.13
54	.15	.25	- .13	- .06	- .11	.36	.10
55	.24	.41	- .01	.08	.08	.20	.17
56	- .26	- .24	.11	- .31	.46	- .09	.23
57	.29	.13	- .25	.19	.17	.27	.06
60	.54	.26	.08	.07	- .05	.26	- .03
61	.65	.21	- .06	.19	- .08	.25	- .16
62	- .14	- .10	.63	- .05	.00	- .01	.08
63	- .02	- .11	.75	- .03	.11	- .04	- .07
64	.07	- .13	.53	- .05	.20	- .05	.00
65	.50	.14	.11	.02	- .06	.07	.05
66	- .14	- .16	.73	- .02	.11	- .05	.05
67	.01	- .21	.56	- .05	.06	- .01	- .08
68	- .37	- .19	.33	- .18	.33	- .06	.08
Eigenvalue	16.23	5.20	2.76	2.27	2.09	1.75	1.62
% of variance	25.0	8.0	4.2	3.5	3.2	2.7	2.5
Cum. % of variance	25.0	33.0	37.2	40.7	43.9	46.6	49.1

"Clarity/Organization" and "Clarity of Student Responsibilities"), "Difficulty" (equivalent to our "Workload/Difficulty"), "Skill" (equivalent to "Practical Gain" and the reverse of "Negative Affect"). (See McKee, 1977).

We can therefore conclude with some confidence that there is little difference between the dimensions deaf post-secondary students use to rate their instructors and courses and that of their hearing counterparts.

Checklist response format. Table 2 presents the results of the factor analysis of the checklist response format. Five of the factors, "Cognitive Gain," "Workload/Difficulty," "Negative Affect," "Clarity of Student Responsibility," and "Personal Gain" overlap a great deal with the factors found in the Likert format. However, in place of "Instructor Enthusiam/Warmth" and "Clarity/Organization" we see two other factors labeled "Clarity of Communication" and "Grades."

Before the factor analysis was completed the researchers had anticipated that a manual communication factor might emerge related to the skill of the instructor in producing and receiving manual communication. This did not appear in either form. An inspection of the items loading highly on the factor labeled "Clarity of Communication" will show that skill in manual communication seems to be subsumed in a more general communication factor including such items as "The teacher explained things clearly."

In general, it was concluded that there were more similarities than differences between the factor structures of the two forms. However, the factor structure of the Likert had greater simple structure and accounted for a larger percentage of the total variance.

TABLE 2

Seven Factor Structure of Principal Factor Analysis/Varimax Rotation
for Checklist Response Format of NTID Student Rating of Instruction Form

(N = 251 Cases)

Item Number	Cognitive Gain	Workload/ Difficulty	Negative Affect	Clarity of Communication	Clarity of Responsibilities	Personal Gain	Grades
1	.09	.02	-.49	.10	.08	.22	.21
2	.06	-.11	.06	.05	-.34	.03	-.04
3	.01	-.11	-.15	-.03	.26	.20	.37
4	.15	.46	.12	-.15	-.08	-.13	-.01
5	.01	.27	.16	-.20	-.43	-.18	.14
6	.29	.09	-.07	.08	.44	.18	.22
7	.29	-.26	.02	.16	.38	.06	.12
8	-.08	-.14	-.02	.21	.02	.06	.44
9	.08	.05	-.32	.07	.02	.25	.06
10	.39	-.03	-.23	.13	.11	.19	.00
11	.04	.33	.17	.05	-.21	.17	-.02
12	-.06	.11	.48	-.03	.05	-.05	.07
13	.12	-.13	-.16	.03	.02	.50	.19
14	.17	-.19	.03	.06	.22	-.04	.29
15	.30	.33	.11	-.01	.09	-.01	.12
16	.10	-.21	-.09	.47	.31	.10	.09
17	.14	-.22	-.01	.12	.33	.33	.17
18	.20	-.05	-.02	.28	.20	.25	.18
19	.08	-.18	.01	.41	.32	.20	.11
20	-.05	.28	.15	-.24	-.39	-.19	.21
22	.3]	.00	.06	.02	-.04	.18	.37
23	.22	-.18	-.06	.35	.36	.10	.11
24	-.01	.31	.12	-.02	-.25	.23	-.08
25	.27	-.28	.06	.36	.18	.25	.12
26	.01	.18	.21	-.55	-.01	.07	.01
27	.21	-.03	-.14	.13	.04	.42	.20
28	.20	-.02	-.05	.04	.17	.45	.15
29	.16	.18	-.09	.02	-.11	.16	.00
30	.42	-.11	-.22	.09	.04	.37	-.10
31	.17	.09	.02	.02	-.10	.57	-.02
32	.29	.11	-.16	.03	-.07	.22	.06
33	.32	.03	-.22	-.01	.05	.45	-.12
34	.37	-.19	-.23	.08	.01	.44	.11
35	.19	.00	-.07	.16	.25	.25	.24
36	.57	.08	-.01	.07	.06	.05	.15
37	.32	-.03	-.05	.09	.08	.16	.06
38	.02	.13	.17	-.05	-.24	.15	-.11
39	.54	.17	-.09	.01	.12	.23	.04

TABLE 2 (Continued)

(N = 251 Cases)

Item Number	Cognitive Gain	Workload/ Difficulty	Negative Affect	Clarity of Communication	Clarity of Responsibilities	Personal Gain	Grades
40	.62	- .03	- .02	.00	.00	.13	.13
41	- .29	.09	.45	- .01	- .05	- .02	.11
42	.21	.01	.06	.01	.09	.06	.29
43	.05	.07	.00	.10	.28	.22	.18
44	- .01	.15	.27	.01	- .18	- .07	- .44
45	.10	.04	- .29	.20	.14	.29	.37
46	.22	- .08	.00	.34	.09	.16	.29
47	.07	.35	.28	- .27	- .18	.06	.07
48	.08	- .07	.63	- .14	- .14	- .14	- .08
49	- .01	.30	.32	.00	- .08	- .22	.05
50	.14	.08	- .07	.14	.14	.51	.12
51	.10	- .02	- .13	- .03	.25	.43	.26
52	- .03	.24	- .11	.10	.01	.06	.01
53	.13	.10	- .02	.56	- .11	.07	.16
54	- .01	- .04	- .15	.55	.05	.07	.02
55	.30	.10	.00	.05	.02	.33	.25
56	- .03	.17	.65	- .10	- .08	- .05	- .13
57	.21	.09	- .08	.08	- .05	.15	.42
60	.49	.18	- .07	.02	- .03	.20	.10
61	.23	.03	- .33	.07	.12	.28	.15
62	- .06	.61	.06	- .11	- .04	- .05	- .10
63	.12	.60	.10	- .15	- .03	- .07	- .01
64	- .01	.44	.11	- .06	.08	.07	.00
65	.30	.04	- .15	.18	- .24	.32	.16
66	.03	.64	.01	- .23	.04	- .05	.04
67	.17	.49	.07	.10	- .09	.03	- .15
68	- .06	.20	.37	- .04	.04	- .02	- .06
Eigen-value	9.42	4.81	2.58	2.08	1.98	1.91	1.77
% of variance	14.5	7.4	4.0	3.2	3.1	2.9	2.7
Cum. % of variance	14.5	21.9	25.9	29.1	32.1	35.0	37.8

Items Retained for Factor Scales

For each of the Likert and checklist rating forms, the "best" five items per dimension were retained. "Best" items were generally those which loaded above .40 on their factor, and contributed most to simple structure. The exception was that only three items were retained for the "overall" dimension (these were purposefully excluded from the factor analyses). Thus, this same procedure was employed for each of the Likert and checklist forms to determine items to be retained for factor scales. Tables 3 and 4 summarize the items retained, by dimension, for each form.

Reliabilities and Interscore Correlations

The internal-consistency reliability and interscore correlations for each form are reported in Tables 5 and 6. As is shown in Table 5, the reliabilities for the Likert form ranged from .60 to .88, with a median of .78. The checklist yielded somewhat lower reliabilities which ranged from .42 to .71 with a median of .62. In addition, Cronbach's alpha coefficients for the composites were .83 and .70 for the Likert and checklist forms, respectively.

Multiple Regression Results

The "overall" factor scale score was regressed, in stepwise fashion, on to the remaining seven factor scale scores. The .05 and .10 levels of significance were employed as criteria for entering and removing, respectively, scale scores from the equation. This was done for the Likert and checklist forms separately. As shown in Tables 7 and 8, five of the Likert factor scales significantly and uniquely related to the corresponding "overall" scale. Only four of the factor scales likewise

TABLE 3

Likert Dimensions and Retained Items

PRACTICAL GAIN

10. I learned a lot of facts in this course.
34. This course was very useful.
39. I learned to solve real work problems.
40. This course will help me when I get a job.
60. I learned new methods for solving problems.

INSTRUCTOR ENTHUSIASM/WARMTH

3. The teacher was interested in students as people.
44. The teacher was not very interested in students as people.
45. The teacher was an enthusiastic and warm person.
50. The teacher took an active, personal interest in the progress of the class.
51. The instructor created a good feeling in the classroom.

WORKLOAD/DIFFICULTY

4. It was difficult to learn all the information.
62. The tests were too hard.
63. There was too much work and it was too difficult.
66. The course was too hard.
67. Too much work was assigned outside of class.

PERSONAL GAIN

27. The teacher made me feel sure about myself.
31. This course made me think about many of my own attitudes.

TABLE 3 (Continued)

PERSONAL GAIN

32. I talked with my friends about things I had learned in class.

33. This course helped me to learn more about myself.

49. This course did not help me understand myself.

NEGATIVE AFFECT

2. The instructor was not prepared for class.

12. I fell asleep a lot in class.

38. The instructor did not organize or summarize the information.

48. The teacher was boring.

56. The class was boring.

CLARITY/ORGANIZATION

16. The instructor explained things clearly.

17. The teacher made good use of examples and illustrations.

18. The new words and new ideas were explained very well.

19. The lectures were organized and easy to understand.

23. The teacher answered questions clearly.

CLARITY OF STUDENT RESPONSIBILITY

24. Sometimes I didn't know what was expected of me.

35. The teacher repeated the important things.

42. The instructor followed a schedule I knew what we would cover each time.

46. Objectives were clearly discussed at the beginning of the course.

47. Often I didn't understand what the teacher meant.

TABLE 3 (Continued)

OVERALL

21. All things considered, this course was excellent.

58. I would recommend this teacher to my friends.

59. I would recommend this course to my friends.

TABLE 4

Checklist Dimensions and Retained Items

COGNITIVE GAIN

10. I learned a lot of facts in this course.

36. I learned skills needed by workers in this field.

39. I learned to solve real work problems.

40. This course will help me when I get a job.

60. I learned new methods for solving problems.

WORKLOAD/DIFFICULTY

4. It was difficult to learn all the information.

62. The tests were too hard.

63. There was too much work and it was too difficult.

66. The course was too hard.

67. Too much work was assigned outside of class.

NEGATIVE AFFECT

1. The teacher was interesting.

12. I fell asleep a lot in class.

41. I did not have to think very much for this course.

48. The teacher was boring.

56. The class was boring.

CLARITY OF COMMUNICATION

19. The lectures were organized and easy to understand.

23. The teacher answered questions clearly.

26. Many times the teacher did not understand what I meant.

TABLE 4 (Continued)

53. The teacher understood me when I used total communication.

54. The teacher's total communication was easy to understand.

CLARITY OF RESPONSE

5. Some parts of the presentations were not explained very well.

20. The purpose of some classes was unclear.

24. Sometimes, I didn't know what was expected of me.

35. The teacher repeated the important things.

38. The instructor did not organize or summarize the information.

PERSONAL GAIN

13. I have thought a lot about many of the ideas presented.

31. This course made me think about many of my own attitudes.

33. This course helped me to learn more about myself.

34. This course was very useful.

51. The instructor generated a good feeling in the classroom.

GRADES

8. Grades were fair.

14. The teacher clearly told us what to study for tests.

22. The teacher usually let me know how well I was doing.

46. Objectives were clearly discussed at the beginning of the course.

57. I knew what was expected of me and how well I was doing.

OVERALL

21. All things considered, this course was excellent.

58. I would recommend this teacher to my friends.

59. I would recommend this course to my friends.

TABLE 5

Interscore Correlations for Likert Scale*

	Variable							
Variable	1	2	3	4	5	6	7	8
1. Practical Gain	.76							
2. Enthusiam/Warmth	.423	.82						
3. Workload/Difficulty	.131	.274	.82					
4. Personal Gain	.555	.474	.198	.79				
5. Negative Affect	.384	.493	.372	.424	.67			
6. Clarity/Organization	.490	.579	.396	.449	.493	.88		
7. Clarity of Responsibility	.372	.464	.423	.359	.443	.531	.60	
8. Overall	.528	.491	.352	.511	.449	.544	.438	.77

* Pearson-Product-Moment; diagonal entries are Hoyt estimates of reliability (internal consistency). Cronbach's alpha (Cronbach, 1951) for composite is .83.

TABLE 6

Interscore Correlations for Checklist*

	Variable							
Variable	1	2	3	4	5	6	7	8
1. Cognitive Gain	.71							
2. Workload/Difficulty	-.085	.50						
3. Negative Affect	.216	.206	.69					
4. Clarity of Communication	.199	.298	.249	.65				
5. Clarity of Responsibilities	.119	.374	.353	.431	.42			
6. Personal Gain	.437	.133	.339	.217	.234	.63		
7. Grades	.335	.140	.174	.352	.196	.367	.50	
8. Overall	.348	.152	.329	.264	.327	.420	.284	.59

* Pearson-Product-Moment; diagonal entries are Hoyt estimates of reliability (internal consistency). Cronbach's alpha (Cronbach, 1951) for composite is .70.

TABLE 7

Summary of Multiple Regression Results for the Likert Scale

Variable	Multiple R	Multiple RSQ	Increase in RSQ	F-to-Enter
Clarity/Organization	.544	.296	.296	8.55**
Practical Gain	.622	.386	.090	17.14**
Personal Gain	.649	.421	.035	9.59**
Workload/Difficulty	.669	.447	.026	10.65**
Enthusiasm/Warmth	.678	.459	.012	5.32*

* P .05

**p .01

TABLE 8

Summary of Multiple Regression Results for the Checklist Scale

Variable	Multiple R	Multiple RSQ	Increase in RSQ	F-to-Enter
Personal Gain	.420	.176	.176	15.05**
Clarity of Responsibility	.481	.231	.055	11.62**
Cognitive Gain	.513	.263	.032	9.72**
Negative Affect	.527	.278	.015	4.99*

* P .05

**p .01

stepped in for the checklist scale (all ps .05). Additionally, the Likert yielded an overall multiple R of .678 while the checklist yielded an R of .527.

Discriminant Analyses

As one method of examining the relationship between the demographic information collected on each student (major, year, sex, course within major, and expected grade) ten discriminant analyses were performed; one for each of the five demographic variables for each of the two response formats. In each case, the predictor variables were the factor scale scores.

Likert results. At least one significant discriminant function was found in all five analyses using the factor scale scores as predictor variables and the individual demographic items as the group variables. However, only a small amount of the variance in the discriminant function could be attributed to group membership (square of the canonical correlation). The set of subscale scores for the Likert response format most adequately discriminated between the students who were rating a course in their major program, were rating a course not in their major program, or didn't know. The "do not know's" includes students without a declared major as well as those who were simply not sure.

Tables 9 and 10 present the results of the stepwise discriminant analysis for "course in major program" and Table 11 gives a summary of discriminant analyses for the four remaining demographic variables.

As illustrated in Tables 9 and 10, students who were in courses that were not part of their major program tended to rate the course positive overall, (e.g., all things considered they thought the course

TABLE 9

Summary of Three-Group Stepwise Discriminant Analyses for "Course In Major Program" for Likert Response Format

Step	Variable*	F to Enter[c]	Wilks Lamba	Approximate Multivariate F for Test of Lamda[a]	Change in RAO's V[b]	Significance of Change in V	Standardized Function Coefficients Function I	Discriminant Function II
1	Scale 1	9.13	.92**	9.13	18.25	.001	1.105	.388
2	Scale 8	13.93	.82**	11.49	30.14	.001	- .748	.184
3	Scale 2	3.33	.79**	8.84	6.93	.031	- .135	-.873
4	Scale 3	3.44	.77**	7.56	7.34	.025	- .167	.743
Eigenvalue							.2267	.0581
Relative Percentage							79.61	20.39
Canonical Correlation							.4299	.2343

[a] Degrees of freedom range from 1,220 on Step 1 to 4, 217 on Step 4

[b] Indicates increase in discrimination attributable to that variable

[c] Minimum F to enter = 2.4

* See Table 3 for description of scales

**p .001

TABLE 10

Predicted Classification of Three Groups with Factor Scale Scores and Centroids of Three Groups on Two Discriminant Functions for Likert Response Formats

Actual Group		Predicted Group			Prior Probability	% Correct Classification	Centroid of Group	
		Group I	Group II	Group III			Function I	Function II
Group I Course in Major Program	N=158	147	10	1	.70	93.0	.24478	.07534
Group II Course is not in major program	N=53	33	20	0	.23	37.7	-.77661	.02404
Group III Not sure	N=15	14	1	0	.07	0%	.14649	-.86694

Percentage of Cases Correctly Classified = 73.89%

TABLE 11

Summary of Results of Stepwise Discriminant Function Analyses for Demographic Variable of Major, Year, Sex, and Expected Grade for Likert Response Format

Dependent Variable	Steps	Variable Entered*	F to Enter	# of Significant Functions Obtained	Eigenvalues of Functions	Canonical Correlation of Functions	Canonical Correlation Squared
Major[1]	1	Scale 3	4.7	2	1 = .1106	1 = .3156	.0996
	2	Scale 7	3.7		2 = .0532	2 = .2247	.0505
Year of entry[2]	1	Scale 1	3.2	1	1 = .0454	1 = .2084	.0434
Sex[3]	1	Scale 5	13.7	1	1 = .0665	1 = .2496	.0623
Expected Grade[4]	1	Scale 3	9.5	2	1 - .1621	1 = .3735	.1395
	2	Scale 1	5.1	2	2 = .0825	2 = .2761	.0762

*See Table 3 for description of scales.

[1] 5 group discriminant analysis. See copy of instrument for list of majors.

[2] 4 group discriminant analysis. See copy of instrument.

[3] 2 group discriminant analysis.

[4] 5 group discriminant analysis, "A," "B," "C," "D," and "E or F."

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was excellent) but they tended to rate the course low in practical value. This, of course, is intuitively reasonable. The first function described above is the most useful in separating group II (course not in major) from the other two groups. The second function is the most useful in discriminating between Group III (not sure) from the other groups. This function (since it has a negative centroid) is characterized by positive ratings for instructor enthusiasm/warmth and negative loadings on workload difficulty. However, since group III is a mixture of non-declared majors and those that were not sure if the course was in their major or not, it is difficult to interpret these results.

Checklist results. Results for the checklist form were very similar to those of the Likert. Again the factor scale scores were best able to discriminate between students who were rating courses in their major programs versus those who were rating courses not in their major program. Tables 12 and 13 present the results for the stepwise discriminant analysis for the "major program," and Table 14 presents a summary of the discriminant analysis for the four remaining demographic variables.

As for the Likert form, the first and by far the strongest discriminant function is the most useful in discriminating group 2 (course is not in major) from the other two groups. This function is characterized by a high positive loading on cognitive gain and mildly negative loadings on personal gain and negative affect. Since a negative loading on negative affect is desirable these students are rating the course as generally positive, but with very high ratings on personal gain. This is slightly different than the Likert format with its negative loading on practical value.

TABLE 12

Summary of Three-Group Stepwise Discriminant Analyses for "Course In Major Program" for Checklist Response Format

Step	Variable*	F to Enter[c]	Wilks Lamba	Approximate Multivariate F for Test of Lamda[a]	Change in RAO's V[b]	Significance of Change in V	Standardized Function Coefficients	
							Function I	Function II
1	Scale 1	16.8	.86	16.8**	33.51	.001	1.071	.307
2	Scale 6	7.1	.81	11.8**	49.75	.001	- .477	-.114
3	Scale 3	3.3	.79	9.01**	57.32	.023	- .311	.844
Eigenvalue							-.2544	.0135
Relative Percentage							94.96	5.04
Canonical Correlation							.4503	.1154

[a] Degrees of freedom range from 1,214 on Step 1 to 3, 212 on Step 3

[b] Indicates increase in discrimination attributable to that variable

[c] Minimum F to enter = 2.4

* See Table 3 for description of scales

**P .001

TABLE 13

Predicted Classification of Three Groups with Factor Scale Scores and Centroids of Three Groups on Two Discriminant Functions for Checklist Response Formats

Actual Group		Predicted Group			Prior Probability	% Correct Classification	Centroid of Group	
		Group I	Group II	Group III			Function I	Function II
Group I Course in Major Program	N=150	136	14	0	.69	90.7%	-.2825	-.0261
Group II Course is not in major program	N=51	30	21	0	.23	41.2%	.7860	.0507
Group III Not sure	N=16	12	4	0	.07	0%	.142	.4064

Percentage of Cases Correctly Classified = 72.35%

TABLE 14

Summary of Results of Stepwise Discriminant Function Analyses for Demographic Variable of Major, Year, Sex, and Expected Grade for Checklist Response Format

Dependent Variable	Steps	Variable Entered*	F to Enter	# of Significant Functions Obtained	Eigenvalues of Functions	Canonical Correlation of Functions	Canonical Correlation Squared
Major[1]	1	Scale 1	4.24	2	1 = .1985	1 - .4070	1 = .1656
	2	Scale 6	7.03		2 = .0342	2 = .1819	2 = .0331
Year of entry[2]	No variable had F level sufficient for entry**						
Sex[3]	No variable had F level sufficient for entry						
Expected Grade[4]	1	Scale 2	7.28	2	1 = .1720	1 = .3831	1 = .1468
	2	Scale 1	4.62		2 = .0269	2 = 1618	2 = .0262

*See Table 3 for description of scales.

[1] 5 group discriminant analysis. See copy of instrument for list of majors.

[2] 4 group discriminant analysis. See copy of instrument.

[3] 2 group discriminant analysis.

[4] 5 group discriminant analysis, "A," "B," "C," "D," and "E or F."

** F to enter = 2.4.

Something worthy of note for both forms is the lack of relationship between sex and year of entry with students' responses. Major and expected grade are both significantly related to students' ratings for both forms.

Discussion

Congruence of Factors with Those Previously Obtained with Hearing Subjects

One of the major questions of interest in this study was "what sort of discriminations do deaf post-secondary students make in rating instructors and courses? Do they view teacher effectiveness as a single continuum running from good to bad?" Or do they make complex multidimensional judgments, seeing teachers and courses as different in a number of ways.

The results reported in this study indicate that deaf post-secondary students do indeed use several dimensions to rate their instructors and courses, and that these dimensions are very similar to those found with their hearing counterparts. This is the first reported study where a sufficient number of deaf students completed the same instrument to allow such a factor analytic examination of the ratings.

Two points should be noted here. First, the particular factors obtained in any given study are dependent upon the items included. For example, if an instrument does not contain items that ask about the difficulty or workload of a course, no workload/difficulty factor will emerge. Yet, if such items exist previous research indicates that such a factor will almost always emerge, as it did in the present study. Secondly, the naming of factors is the result of considerable subjective interpretation. Readers who are seriously interested in the items that comprise a given factor should carefully inspect Tables 2 and 3.

The total amount of variance in student responses accounted for by the factors listed (49.1 for Likert and 37.8 for checklist) is in the low average range compared to published studies with hearing students. It is likely that the amount of variance accounted for will increase as the instrument is further refined.

Likert Versus Checklist Response Format

A comparison of the two response formats was the second main purpose of this study. In general, the results favor the Likert response format. The factor analyses yielded seven-factor, orthogonal solutions as optimal for each form. However, the results for the Likert form indicate that over 49% of the total variance was accounted for, as compared with less than 38% for the checklist form. Various rotations, performed independently for each form, did not improve this result. Additionally, the factors for the Likert form were by far more easily interpreted. This is a subjective aspect and readers are invited to inspect the summaries provided in Tables 1 and 2, and decide for themselves. Thus, the factor-analytic results indicate that the Likert form yielded factors which were more representative of the total variance and were more easily interpreted.

The reliabilities of the factor scales also favor the Likert form. Substantial differences, in terms of the median, range, and Cronbach's alpha for composites, were indicated. Moreover, the mean difference in magnitude for Workload/Difficulty, Negative Affect, Clarity of Responsibilities, and Overall, those directly comparable factor scales, is .16 in favor of the Likert form. These results indicate that individually, in addition to as a set, the Likert response format yielded more reliable factor scale scores.

The "overall" factor scale score was regressed, in stepwise fashion, onto the set of seven factor scale scores separately for the Likert and checklist forms. Again in favor of the Likert form, the final multiple Rs were .678 and .527 for the Likert and checklist, respectively. In addition, five of the Likert factor scales significantly and uniquely related to the overall scale, as compared with four for the checklist. The higher multiple R and the greater number of significantly relating factor scores is congruent with one of the precepts of this study, that the "overall" dimension would subsume the remaining seven factor scale scores.

Several techniques are available to examine the relationship between a given variable and a set of variables. In this study we wanted to examine the relationship between certain demographic variables and students' factor scale scores. Since all the demographic variables separated the students into a limited number of mutually exclusive groups discriminant analysis was the chosen technique. Discriminant analyses not only yield information concerning the degree of relationship between the dependent variable and the predictor variable, it also allowed us to examine the differences between the groups in terms of the predictor variables. Hence we are able to say that students who were rating courses not in their major program were more likely to rate the course as generally good, but of less practical value than students who were rating courses in their major program. This was generally true of both the Likert and checklist response formats, although the checklist format did not have a "Practical Value" factor and the low ratings were on the "Personal Gain" factor.

It is interesting to note that neither sex nor year were significantly related to the student ratings. Prior research with hearing students supports the lack of relationship between sex and student ratings, but typically upperclassmen (juniors and seniors) are reported to give slightly higher ratings than freshmen and sophomores. It is possible that the technical nature of NTID programs (an associate degree is the highest NTID degree accorded; students transfer to RIT programs if they desire a Bachelor's degree) and almost complete lack of emphasis on year in the traditional sense leads to this lack of relationship.

The relationship between major and expected grade, although significant, are very low and needs to be examined further before any conclusions can be drawn.

Conclusions

Based on the findings reported here, the investigators reached the conclusion that the Likert response format had certain advantages over the checklist format. The advantages were primarily: a more interpretable factor structure accounting for a greater percentage of the variance in students' responses, and factor scale scores that yielded higher internal consistency reliabilities. Why these results, contrary to our original expectations, were found is subject to several interpretations. It is possible that requiring students to respond to every item, as does the Likert format, has certain psychometric advantages. It is also possible that the restricted range of item scores for the checklist response format attenuated the observed relationships for that form. This would have given the Likert form an advantage, particularly in determining the reliability estimates. Lastly, since students are

frequently asked to respond to questionnaires using a Likert format, the observed more positive findings for that form may be due to their simply being accustomed to the Likert response format.

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APPENDIX

Copies of Instruments

Individual Item Statistics

Individual Item Statistics for Likert and Checklist Response Formats for the NTID Student Rating of Instruction Form

Item Number	Likert Response Format			Checklist Response Format	
	N	$\bar{x}$	Standard Deviation	N	Percent Checked
1	249	4.3	.72	251	90
2	249	2.0	1.13	251	68
3	249	4.3	.82	251	91
4	249	2.8	1.20	251	37
5	249	2.5	1.14	251	29
6	249	4.1	.78	251	80
7	249	4.1	.89	251	72
8	248	3.9	1.02	251	77
9	249	4.2	.77	251	80
10	249	4.2	.77	251	82
11	247	2.9	1.09	251	33
12	248	1.6	.94	251	88
13	249	3.7	.86	251	56
14	249	4.2	.93	251	79
15	249	3.4	1.14	251	47
16	249	4.2	.79	251	80
17	249	4.2	.83	251	83
18	249	4.1	.82	251	76
19	249	4.1	.86	251	68
20	248	2.4	1.02	251	21
21	249	4.0	.86	251	55
22	248	3.6	1.00	251	50
23	249	4.2	.74	251	81
24	248	3.0	.96	251	33
25	249	4.1	.76	251	69
26	249	2.1	.93	251	13
27	249	3.7	.90	251	56
28	248	3.9	.89	251	58
29	247	3.4	1.12	251	45
30	248	3.9	.89	251	73
31	248	3.8	.90	251	60
32	248	3.8	.98	251	70
33	248	3.7	1.05	251	62
34	247	4.1	.94	251	76
35	247	4.2	.80	251	77
36	247	3.8	.93	251	51
37	247	3.8	1.04	251	59
38	245	2.0	.96	251	64
39	247	3.6	.93	251	55
40	247	3.7	1.03	251	58

Individual Item Statistics for Likert and Checklist Response Formats for the NTID Student Rating of Instruction Form (Continued)

Item Number	Likert Response Format			Checklist Response Format	
	N	$\bar{x}$	Standard Deviation	N	Percent Checked
41	247	2.4	1.11	251	11
42	247	3.9	1.05	251	64
43	247	4.3	.85	251	84
44	247	1.7	.95	251	68
45	246	4.2	.86	251	77
46	247	4.1	.85	251	70
47	247	2.4	1.10	251	17
48	247	1.9	1.03	251	76
49	247	2.0	1.05	251	92
50	248	4.1	.86	251	68
51	246	4.1	.80	251	72
52	246	3.3	1.08	251	46
53	246	4.3	.74	251	76
54	246	4.3	.85	251	80
55	245	3.9	.96	251	56
56	245	2.1	1.11	251	19
57	243	3.8	.81	251	51
58	242	4.0	1.02	251	58
59	243	3.9	.96	251	63
60	245	3.8	.94	251	57
61	246	3.8	.96	251	58
62	245	2.6	1.02	251	23
63	245	2.6	1.07	251	20
64	245	2.8	1.07	251	28
65	245	4.0	.76	251	70
66	245	2.4	1.02	251	14
67	245	2.6	1.14	251	27
68	245	2.1	1.17	251	11

Likert Form

INSTRUCTIONS

DO NOT PUT YOUR NAME ON THIS QUESTIONNAIRE.

THIS QUESTIONNAIRE WILL HELP YOUR TEACHER IMPROVE THE COURSE YOU HAVE JUST COMPLETED. YOUR TEACHER WILL NEVER SEE YOUR ANSWERS. YOUR TEACHER WILL RECEIVE A SUMMARY OF THE RESPONSES FROM THE WHOLE CLASS.

FIRST - PLEASE ANSWER THE FOLLOWING QUESTIONS ABOUT YOURSELF. CIRCLE THE CORRECT LETTER.

1. WHAT IS YOUR DEPARTMENT?

   A. Business Careers/NTID
   B. Engineering Technologies/NTID
   C. Technical Science/NTID
   D. Visual Communications/NTID
   E. Cross Registered/RIT
   Other (please explain)

2. WHEN DID YOU FIRST COME TO NTID/RIT?

   A. 1978; B. 1977; C. 1976; D. 1975

3. WHAT IS YOUR SEX?

   A. Female
   B. Male

4. IS THIS COURSE IN YOUR MAJOR PROGRAM?

   A. Yes; B. No; C. Not Sure

5. WHAT GRADE DO YOU EXPECT IN THIS COURSE?

   A; B; C; D; F; I or R

NEXT THE STATEMENTS ON THE FOLLOWING PAGES ARE ABOUT THIS COURSE. PLEASE USE THE FOLLOWING CODE TO ANSWER THE QUESTIONS.

A - I STRONGLY AGREE WITH THE STATEMENT;
B - I AGREE WITH THE STATEMENT BUT NOT VERY STRONGLY;
C - I HAVE NO OPINION;
D - I DISAGREE WITH THE STATEMENT;
E - I STRONGLY DISAGREE WITH THE STATEMENT.

EXAMPLE: The teacher explained things clearly. A? B? C? D? E?

HOW YOU FEEL:	HOW YOU MARK THE ANSWERS
-You strongly agree	(A) B C D E
-You agree but not strongly	A (B) C D E
-You have no opinion	A B (C) D E
-You disagree	A B C (D) E
-You strongly disagree	A B C D (E)

DON'T UNDERSTAND A WORD OR A STATEMENT??

If you do not understand a word, circle the word. But still respond to the statement. If you do not understand the entire statement, circle the whole statement and go on to the next statement.

EXAMPLE: THE TEACHER WAS ABLE TO (ENHANCE) STUDENT INTEREST IN THE SUBJECT MATTER,

This shows that the student did not understand the word ENHANCE.

If you have any questions, raise your hand.

PLEASE CIRCLE THE LETTER THAT BEST DESCRIBES HOW YOU FEEL

		Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
1.	The teacher was interesting.	A	B	C	D	E
2.	The instructor was <u>not</u> prepared for class.	A	B	C	D	E
3.	The teacher was interested in students as people.	A	B	C	D	E
4.	It was difficult to learn all the information.	A	B	C	D	E
5.	Some parts of presentations were <u>not</u> explained very well.	A	B	C	D	E
6.	The teacher praised good work.	A	B	C	D	E
7.	Test items were clearly worded.	A	B	C	D	E
8.	Grades were fair.	A	B	C	D	E
9.	This course made me think.	A	B	C	D	E
10.	I learned alot of facts in this course.	A	B	C	D	E
11.	At times, I had no idea how well I was doing.	A	B	C	D	E
12.	I fell asleep alot in class.	A	B	C	D	E
13.	I have thought alot about many of the ideas presented.	A	B	C	D	E
14.	The teacher clearly told us what to study for the tests.	A	B	C	D	E
15.	I had to remember too many things.	A	B	C	D	E
16.	The instructor explained things clearly.	A	B	C	D	E
17.	The teacher made good use of examples and illustrations.	A	B	C	D	E
18.	The new words and new ideas were explained very well.	A	B	C	D	E
19.	The lectures were organized and easy to understand.	A	B	C	D	E
20.	The purpose of some classes was unclear.	A	B	C	D	E
21.	All things considered, this course was excellent	A	B	C	D	E
22.	The teacher usually let me know how well I was doing.	A	B	C	D	E
23.	The teacher answered questions clearly.	A	B	C	D	E
24.	Sometimes, I didn't know what was expected of me.	A	B	C	D	E
25.	The objectives (goals) were clear and understandable.	A	B	C	D	E

		Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
26.	Many times the teacher did not understand what I meant.	A	B	C	D	E
27.	The teacher made me feel sure about myself.	A	B	C	D	E
28.	The teacher was excited about the subject matter.	A	B	C	D	E
29.	I did extra reading about the subject.	A	B	C	D	E
30.	This course helped me to understand my own strengths.	A	B	C	D	E
31.	This course made me think about many of my own attitudes.	A	B	C	D	E
32.	I talked with my friends about things I had learned in class.	A	B	C	D	E
33.	This course helped me to learn more about myself.	A	B	C	D	E
34.	This course was very useful.	A	B	C	D	E
35.	The teacher repeated the important things.	A	B	C	D	E
36.	I learned skills needed by workers in this field.	A	B	C	D	E
37.	This course will help me in some of my other courses.	A	B	C	D	E
38.	The instructor did not organize or summarize the information.	A	B	C	D	E
39.	I learned to solve real work problems.	A	B	C	D	E
40.	This course will help me when I get a job.	A	B	C	D	E
41.	I did not have to think very much for this course.	A	B	C	D	E
42.	The instructor followed a schedule. I knew what we would cover each time.	A	B	C	D	E
43.	The instructor was prepared for class.	A	B	C	D	E
44.	The teacher was not very interested in students as people.	A	B	C	D	E
45.	The teacher was an enthusiastic and warm person.	A	B	C	D	E
46.	Objectives were clearly discussed at the beginning of the course.	A	B	C	D	E
47.	Often I didn't understand what the teacher meant.	A	B	C	D	E
48.	The teacher was boring.	A	B	C	D	E
49.	This course did not help me understand myself.	A	B	C	D	E

		Strongly Agree	Agree	No Opinion	Disagree	Strongly Disagree
50.	The teacher took an active, personal interest in the progress of the class.	A	B	C	D	E
51.	The instructor created a good feeling in the classroom.	A	B	C	D	E
52.	I was usually surprised at the test grades.	A	B	C	D	E
53.	The teacher understood me when I used total communication.	A	B	C	D	E
54.	The teacher's total communication was easy to understand.	A	B	C	D	E
55.	Work was returned with suggestions for improvement.	A	B	C	D	E
56.	The class was boring.	A	B	C	D	E
57.	I knew what was expected of me and how well I was doing.	A	B	C	D	E
58.	I would recommend this teacher to my friends.	A	B	C	D	E
59.	I would recommend this course to my friends.	A	B	C	D	E
60.	I learned new methods for solving problems.	A	B	C	D	E
61.	The course was more interesting than I expected.	A	B	C	D	E
62.	The tests were too hard.	A	B	C	D	E
63.	There was too much work and it was too difficult.	A	B	C	D	E
64.	The final exam counted too much towards my grade.	A	B	C	D	E
65.	This course helped me accept responsibility for my own actions.	A	B	C	D	E
66.	The course was too hard.	A	B	C	D	E
67.	Too much work was assigned outside of class.	A	B	C	D	E
68.	This course was a waste of time.	A	B	C	D	E

Checklist Form

INSTRUCTIONS

DO NOT PUT YOUR NAME ON THIS QUESTIONNAIRE.

THIS QUESTIONNAIRE WILL HELP YOUR TEACHER IMPROVE THE COURSE YOU HAVE JUST COMPLETED. YOUR TEACHER WILL NEVER SEE YOUR ANSWERS. YOUR TEACHER WILL RECEIVE A SUMMARY OF THE RESPONSES FROM THE WHOLE CLASS.

FIRST - PLEASE ANSWER THE FOLLOWING QUESTIONS ABOUT YOURSELF. CIRCLE THE CORRECT LETTER.

1. WHAT IS YOUR DEPARTMENT?

   A. Business Careers/NTID
   B. Engineering Technologies/NTID
   C. Technical Science/NTID
   D. Visual Communications/NTID
   E. Cross Registered/RIT
   Other (please explain)

2. WHEN DID YOU FIRST COME TO NTID/RIT?

   A. 1978; B. 1977; C. 1976; D. 1975

3. WHAT IS YOUR SEX?

   A. Female
   B. Male

4. IS THIS COURSE IN YOUR MAJOR PROGRAM?

   A. Yes; B. No; C. Not Sure

5. WHAT GRADE DO YOU EXPECT IN THIS COURSE?

   A; B; C; D; F; I or R

NEXT PLEASE READ ALL THE STATEMENTS ON THE FOLLOWING PAGES. THE STATEMENTS ARE ABOUT THIS COURSE. IF YOU THINK THE STATEMENT DESCRIBES THIS COURSE, CHECK THE STATEMENT.

EXAMPLE: The teacher explained things clearly. ✓

This shows the student felt the teacher explained things clearly.

EXAMPLE: The teacher explained things clearly, _____

This shows the student felt the teacher did not explain things very clearly.

REMEMBER: CHECK ALL THE STATEMENTS YOU FEEL ARE TRUE FOR THIS COURSE.

DON'T UNDERSTAND A WORD OR A STATEMENT??

If you do not understand a word, circle the word. But still respond to the statement.
If you do not understand the entire statement, circle the whole statement and go on to the next statement.

EXAMPLE: THE TEACHER WAS ABLE TO (ENHANCE) STUDENT INTEREST IN THE SUBJECT MATTER.

This shows that the student did not understand the word ENHANCE.

If you have any questions, raise your hand.

IF YOU THINK THE STATEMENT IS TRUE FOR THIS COURSE,
PUT A CHECK (✓) ON THE LINE.

1. The teacher was interesting. _____
2. The instructor was <u>not</u> prepared for class. _____
3. The teacher was interested in students as people. _____
4. It was difficult to learn all the information. _____
5. Some parts of presentations were <u>not</u> explained very well. _____
6. The teacher praised good work. _____
7. Test items were clearly worded. _____
8. Grades were fair. _____
9. This course made me think. _____
10. I learned alot of facts in this course. _____
11. At times, I had no idea how well I was doing. _____
12. I fell asleep alot in class. _____
13. I have thought alot about many of the ideas presented. _____
14. The teacher clearly told us what to study for the tests. _____
15. I had to remember too many things. _____
16. The instructor explained things clearly. _____
17. The teacher made good use of examples and illustrations. _____
18. The new words and new ideas were explained very well. _____
19. The lectures were organized and easy to understand. _____
20. The purpose of some classes was unclear. _____
21. All things considered, this course was excellent. _____
22. The teacher usually let me know how well I was doing. _____
23. The teacher answered questions clearly. _____
24. Sometimes, I didn't know what was expected of me. _____
25. The objectives (goals) were clear and understandable. _____
26. Many times the teacher did not understand what I meant. _____
27. The teacher made me feel sure about myself. _____
28. The teacher was excited about the subject matter. _____
29. I did extra reading about the subject. _____
30. This course helped me to understand my own strengths. _____

31. This course made me think about many of my own attitudes. _____
32. I talked with my friends about things I had learned in class. _____
33. This course helped me to learn more about myself. _____
34. This course was very useful. _____
35. The teacher repeated the important things. _____
36. I learned skills needed by workers in this field. _____
37. This course will help me in some of my other courses. _____
38. The instructor did not organize or summarize the information. _____
39. I learned to solve real work problems. _____
40. This course will help me when I get a job. _____
41. I did not have to think very much for this course. _____
42. The instructor followed a schedule. I knew what we would cover each time. _____
43. The instructor was prepared for class. _____
44. The teacher was not very interested in students as people. _____
45. The teacher was an enthusiastic and warm person. _____
46. Objectives were clearly discussed at the beginning of the course. _____
47. Often I didn't understand what the teacher meant. _____
48. The teacher was boring. _____
49. This course did not help me understand myself. _____
50. The teacher took an active, personal interest in the progress of the class. _____
51. The instructor created a good feeling in the classroom. _____
52. I was usually surprised at the test grades. _____
53. The teacher understood me when I used total communication. _____
54. The teacher's total communication was easy to understand. _____
55. Work was returned with suggestions for improvement. _____
56. The class was boring. _____
57. I knew what was expected of me and how well I was doing. _____
58. I would recommend this teacher to my friends. _____
59. I would recommend this course to my friends. _____
60. I learned new methods for solving problems. _____
61. The course was more interesting than I expected. _____
62. The tests were too hard. _____

63. There was too much work and it was too difficult. _____

64. The final exam counted too much towards my grade. _____

65. This course helped me accept responsibility for my own actions. _____

66. The course was too hard. _____

67. Too much work was assigned outside of class. _____

68. This course was a waste of time. _____